
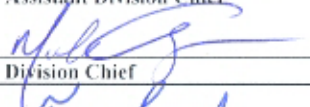
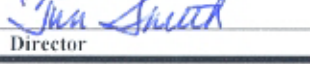


Recommend Approval:  6-26-12 Assistant Division Chief Date	Maryland Department of Transportation State Highway Administration Office of Materials Technology MARYLAND STANDARD METHOD OF TESTS	
 6-26-12 Division Chief Date		
Approved:  07/10/12 Director Date	<b>CORE DRILLING HYDRAULIC CEMENT          CONCRETE PAVEMENT FOR THICKNESS</b>	<b>MSMT          552</b>

**SCOPE:**

This procedure is used to obtain cores from conventional and continuously reinforced portland cement concrete pavements to determine pavement thickness.

**MATERIALS AND EQUIPMENT:**

1. Device capable of drilling a minimum 2 in. diameter core.
2. A 2 in. minimum diameter (thin walled) diamond drill bit.
3. Sufficient water supply to cool the drill bits.

**TEST PROCEDURE:**

1. Take cores for mainline paving at intervals of 1000 ft along each lane between longitudinal joints.
  - a. Where multiple lanes are involved, stagger cores so that the centerline distance between cores for each roadway is 500 ft for two lanes, 333 ft for three lanes, 250 ft for four lanes, or as directed.
  - b. Commence drilling at the project terminal having the lowest station number, where possible. The last unit in each lane shall be either 1000 ft or the fractional part of 1000 ft remaining.
  - c. Take one core per lane on ramps and intersecting roads 1000 ft or less in length.
2. When a core is deficient by more than 0.2 in., take two additional cores, each approximately 10 ft from the deficient core (within the same slab for conventionally reinforced pavement).
  - a. The average thickness of the three cores will be considered the average pavement thickness.
  - b. If the average of the three cores is deficient, continue drilling at 10 ft intervals in each direction in the same lane until cores conform to minimum requirements.
  - c. The Administration will interpolate the last 10 ft in each direction and use the determined stations to establish the perimeter of the penalty area.
  - d. Measurements in excess of the specified thickness will be considered as being the only specified thickness when calculating the average thickness of the pavement.
3. When an area has been determined to have deficient thickness, take cores from all adjacent lanes that are in contact with the deficient areas.

- a. Follow the same procedure outlined in Step 2 if these areas are part of the same monolithic unit.
  - b. If any deficient cores are found among these, apply the same procedure to subsequent, adjacent areas until a satisfactory area is found.
  - c. Once a satisfactory area is found, the 1000 ft rule again applies.
  - d. Any additional cores made within the adjacent, longitudinal lane shall not disrupt the 1000 ft core spacings made along that lane.
4. Take one core from each crossover. If this core is found to be deficient by more than 0.2 in., take two additional cores and average per Step 2. This average will be representative of the entire crossover.
  5. Core intersection area slabs such as corners, etc. not covered by cores for the regular lanes of mainline or intersecting roads at the rate of one core for each 100 yd<sup>2</sup> of corner slab area within a given intersection. The Engineer will choose the coring location(s). For each core deficient by more than 0.2 in., take two additional cores and average as outlined in Step 2.
  6. Repair core holes using a packaged, ready-mixed concrete in conformance with the manufacturer's instructions. The concrete will be as approved by the Engineer.

**REPORT:**

Report the average thickness of each tested pavement area to the nearest 0.1 in.